

IN THE CLAIMS

Claim 1 (currently amended). A method for producing copolymeric polyacrylate pressure-sensitive adhesives, in which a monomer mixture comprising acrylic acid and/or methacrylic acid and/or derivatives thereof is subjected to a free-radical polymerization, ~~characterized in that wherein~~, based on the monomer mixture, 0.05% to 25% by weight of acrylated or methacrylated nitroxide derivatives of the general formula



is used, where $\text{R}_1 = \text{H}$ or CH_3 and R_3 is a nitroxide derivative,

~~or in that wherein~~ a polyacrylate is reacted with a nitroxide derivative to give a nitroxide-modified polyacrylate corresponding to one obtained in accordance with the first alternative.

Claim 2 (currently amended). The method of claim 1, ~~characterized by comprising~~ free-radical polymerization of at least the following constituents:

(A) acrylic acid and/or methacrylic acid and/or derivatives thereof according to the formula



where $\text{R}_1 = \text{H}$ or CH_3 and R_2 = an alkyl chain having 2-20 carbon atoms, in a fraction of 45% to 99.95% by weight,

(B) acrylated or methacrylated nitroxide derivatives of the general formula

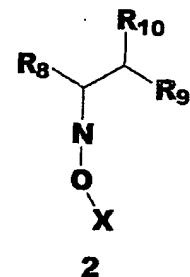
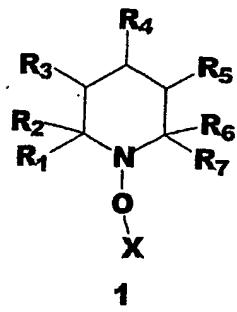


where $\text{R}_1 = \text{H}$ or CH_3 and R_3 is a nitroxide derivative, in a fraction of 0.05% to 25% by weight.

Claim 3 (currently amended). The method of claim 1 ~~or~~ 2, ~~characterized in that wherein~~ the polymerization is additionally carried out with

(C) at least one vinyl compound having functional groups, or a mixture thereof, in a fraction of 0% to 30% by weight, based on the monomer mixture.

Claim 4 (currently amended). The method of ~~any one of claims 1 to 3, characterized in that claim 1, wherein~~, as nitroxide derivative, a compound ~~is used~~ which ~~may be~~ ~~is~~ represented by one of the following general formulae is used:



R_1-R_9 = alkyl or aryl or further functional groups

Claim 5 (currently amended). The method of ~~any one of claims 1 to 4, characterized in that claim 3, wherein~~ the vinyl compound is selected from the group consisting of vinyl acetate, acrylamides, and photoinitiators functionalized with double bond.

Claim 6 (currently amended). The method of ~~any one of claims 1 to 5, characterized in that claim 1, wherein~~ the polymerization takes place in solution, ~~preferably in organic solvents or water or a mixture of organic solvents and water, the solvent preferably comprising high-boiling aromatics, especially toluene or xylene.~~

Claim 7 (currently amended). The method of ~~any one of claims 1 to 6, characterized in that claim 1, wherein~~, in a further step, at least one further monomer is added to the nitroxide-modified polyacrylate and, after an increase in temperature to at least 100°C, a nitroxide-controlled free-radical polymerization, initiated by the cleavage of the nitroxide derivative and formation of free radicals along the polyacrylate backbone, is carried out to give a comb block polymer.

Claim 8 (currently amended). The method of claim 7, ~~characterized in that wherein~~ the nitroxide-modified polyacrylate prepared in solution is admixed with the further monomer and thereafter is subjected to a concentration step at elevated temperature, thereby initiating the free-radical polymerization with the further monomer to give the comb block polymer.

Claim 9 (currently amended). The method of claim 7, ~~characterized in that wherein~~, following ~~an optional~~ concentration ~~step where appropriate~~, the nitroxide-modified polyacrylate is admixed with the further monomer and subsequently processed further in a hot melt process, in which the free-radical polymerization with the further monomer is initiated to give the comb block polymer.

Claim 10 (currently amended). The method of ~~any one of claims claim 7, to 9, characterized in that wherein~~ the further monomer is styrene, a styrene derivative, an acrylate or a methacrylate.

Claim 11 (currently amended). The method of claim 10, ~~characterized in that wherein~~ the molecular weight of the individual polystyrene blocks is adjusted to between 500 and 50 000 g/mol, ~~preferably between 4000 and 30 000 g/mol.~~

Claim 12 (currently amended). The method of ~~any one of claims 7 to 11, characterized in that claim 7, wherein~~ the temperature of the polyacrylate composition for copolymerization with the further monomer is increased to 130°C.

Claim 13 (currently amended). A nitroxide-modified polyacrylate ~~obtainable by a method of any one of claims 1 to 12 obtained by the method of claim 1.~~

Claim 14 (currently amended). The nitroxide-modified polyacrylate of claim 13, ~~characterized by having~~ an average molecular weight of between 500,000 and 2,000,000 g/mol (M_w), ~~preferably between 600 000 and 1 000 000 g/mol (M_w).~~

Claim 15 (currently amended). A comb block polymer having pressure-sensitive adhesion properties, ~~obtainable obtained~~ by polymerizational attachment of blocks onto ~~a~~ ~~the~~ nitroxide-modified polyacrylate of claim 13 ~~or 14 by a method of any one of claims 7 to 12.~~

Claim 16 (currently amended). ~~The use of the comb block polymer of claim 15 for producing pressure-sensitive Pressure-sensitive adhesive articles comprising the comb block copolymer of claim 15.~~

Claim 17 (currently amended). ~~The use of claim 16 for A method for~~ producing pressure-sensitive adhesive tapes or sheets ~~by which comprises~~ coating one or both sides of a backing with a pressure-sensitive adhesive ~~which comprises or consists comprising or consisting~~ of the comb block polymer of claim 15.

Claim 18 (currently amended). ~~The use pressure-sensitive adhesive articles of~~ claim 16 ~~or 17,~~ wherein the comb block polymer, before or during processing to give the pressure-sensitive adhesive articles, has been blended with crosslinkers, resins, plasticizers, fillers or other additives or auxiliaries.

Claim 19 (new). The method of claim 17, wherein the comb block polymer, before or during processing to give the pressure-sensitive adhesive articles, has been blended with crosslinkers, resins, plasticizers, fillers or other additives or auxiliaries.